

[54] METHOD AND APPARATUS FOR
DECODING MULTIPLE BIT SEQUENCES
THAT ARE TRANSMITTED
SIMULTANEOUSLY IN A SINGLE
CHANNEL

[75] Inventors: Craig K. Rushforth, Kaysville;
Zhenhua Xie; Robert T. Short, both
of Salt Lake City, all of Utah

[73] Assignee: Unisys Corporation, Blue Bell, Pa.

[21] Appl. No.: 255,809

[22] Filed: Oct. 11, 1988

[51] Int. Cl.⁴ H04K 1/00

[52] U.S. Cl. 375/1; 370/19;
370/18

[58] Field of Search 375/1, 96, 99, 101,
375/103; 364/724.11, 728.01, 724.12, 728.05;
370/95, 3, 19, 18

[56] References Cited

U.S. PATENT DOCUMENTS

4,470,138	9/1984	Gutleber	370/18
4,611,333	9/1986	McCallister et al.	375/1
4,651,327	3/1987	Fujita	375/1
4,672,605	6/1987	Hustig et al.	375/1
4,755,983	7/1988	Masak et al.	375/96

Primary Examiner—Benedict V. Safourek
Assistant Examiner—Christopher O. Edwards
Attorney, Agent, or Firm—Charles J. Fassbender; Robert
S. Bramson

[57] ABSTRACT

Data bits are decoded from a composite signal that is formed by coding multiple bit sequences with respective spreading codes, and transmitting the coded bit sequences simultaneously and asynchronously over a single channel in which the bit sequences are added. This decoding involves a metric in combination with a repetitive decision process which is only linearly dependent on the number of bit sequences in the composite signal.

10 Claims, 6 Drawing Sheets

